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A PRELIMINARY REPORT OF EXPLOSION SEISMIC EXPERIMENTS IN MOUNT EREBUS, ANTARCTICA (ABSTRACT)

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To improve knowledge of the crustal structure, explosion seismic experiments were carried out on Mount Erebus (77.5°S, 167°E, 3794 m) by the group of the "International Mount Erebus Seismic Study (IMESS)" in November and December 1984. Seven blasts at four different sites were made after a few test explosions.

The seismic observation of IMESS had started in December 1980. The number of seismic stations was increased from three to ten by the end of 1983. These stations were linked by radio-telemetry to Scott Base of New Zealand, at 77°51'03''S, 166°45'45''E, about 38 km south of the Erebus Summit and all data were centrally recorded on the 14-channel magnetic tape and some on paper at Scott Base using a quartz clock.

Seven seismic stations were temporarily operated around the summit area of Mount Erebus for the explosion experiments in December 1984.

A tentative *P*-wave structure model of the Erebus region was obtained as follows: 1) The thickness of the first layer of 2.9 km/s is 0.5 km. 2) The second layer has a velocity of 4.7 km/s with a thickness of 1.5 km, and the third layer has a 6.2 km/s velocity with a thickness of 2.5 km. 3) The lowest layer of the model has a velocity of 7.0 km/s which was obtained from the explosion seismic experiments which had been carried out in the McMurdo Sound region.

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